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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, LAM S

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

05/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/684,822		YOSHIDA, MASAHIKO	
	Examiner		Art Unit	
	LAM S. NGUYEN		2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,6,8 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7,9 and 11-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 5, 7, 9, and 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Otsuki (US 6250734).

Regarding to claims 1, 5, 7, 9:

Otsuki discloses a printing method for printing an image by printing dots on a print medium, comprising:

(a) selecting a printing mode and (b) printing the image according to the selected mode (*FIG. 10: The printing apparatus operates in three printing modes: Standard Printing, Intermediate Processing, and Extension Printing*);

wherein:

the step (b) includes:

executing main scanning by moving at least one of a dot printing head and a print medium (*FIG. 10: Main Scanning Direction*); and

executing sub-scanning by moving the print medium in a direction perpendicular to a direction of the main scanning between the main scanings (*FIG. 10: Sub-Scanning Direction*); and

the step (a) includes selecting one of:

a first printing mode wherein, in the first printing mode, a relatively large image in a direction of the sub-scanning is printed based on first image data, and a relatively large number of dot-forming elements are used to form dots and a sub-scanning with a relatively large average feed are executed (*FIG. 10: The first printing mode is the standard printing*), and

a second printing mode wherein, in the second printing mode (*FIG. 10: The second printing mode is the intermediate processing*), a plurality of relatively small images in the direction of the sub-scanning are printed based on second image data (*FIG. 11: A plurality of relative small images are formed in the intermediate processing area, wherein each image associates with dots printed by each pass P2 to P5 in the main scan*), and a relatively small number of dot-forming elements are used to form dots and a sub-scanning with a relatively small average feed are executed (*Abstract: The intermediate processing in the middle area with smaller amounts of sub-scan. Column 13, lines 52-66: The intermediate processing with the reduced number of working nozzles. FIG. 16: While the average number of working nozzles in the standard printing mode in each pass is 7, the average number of working nozzles in the intermediate processing is about 3 per pass*).

Regarding to claim 5: A dot printing device for printing dots on a print medium, comprising:

a dot printing head having a plurality of dot-forming elements for forming dots on the print medium (*FIG. 5*);

a main scanning driver for executing main scanning by moving at least one of the dot printing head and the print medium (*FIG. 2, element 103*);

a head driver for driving at least some of the plurality of dot-forming elements to form dots during the main scanning (*FIGs. 3, 6-7*);

a sub-scan driver for executing sub-scanning by moving the print medium in a direction perpendicular to a direction of the main scanning between the main scanings (*FIG. 2, elements 104-105*).

Regarding to claim 2: wherein:

the sub-scanning is executed with a relatively large fixed first feed in the first printing mode (*FIG. 16: In the standard printing mode*); and

the sub-scanning is executed with a relatively low fixed second feed in the second printing mode (*FIG. 16: In the intermediate processing mode*).

Regarding to claim 3: wherein:

the sub-scanning is executed repeatedly with a combination of a plurality of feeds in the first printing modes, an average of the plurality of feeds in the first printing mode being relatively large (*FIG. 16: The average feeding amount in the standard printing mode is 7*); and

the sub-scanning is executed repeatedly with a combination of a plurality of feeds in the second printing mode, an average of the plurality of feeds in the second printing mode being relatively low (*Fig. 16: The average feeding amount in the intermediate processing mode is $(1+1+1+1+3)/5$*).

Regarding to claims 11-14: wherein the relatively large image or the plurality of relatively small images are printed in substantially the same printing area of a print medium, regardless of whether the first printing mode or the second printing mode is selected (*FIG. 11: In the intermediate processing printing area, a plurality of small images are formed associating*

with dots printed by each pass in the main scan. Because passes (P2-P5) in the main scan are overlapped in the sub-scanning direction, the images are formed in substantially the same printing area).

Regarding to claims 15-17: wherein the plurality of feeds in the first or second printing mode comprise at least two feeds of different amounts (*FIG. 11: The feeding amounts in the first printing mode (Standard Printing) are 7, 4, and 3. The feeding amounts in the second printing mode (Intermediate Processing) are 3, 7, and 5).*

Allowable Subject Matter

2. Claims 4, 6, 8, and 10 are allowed and the reason for allowance was indicated in the previous office action.

Response to Arguments

Applicant's arguments filed 02/28/2007 have been fully considered but they are not persuasive.

The applicant asserted that Otsuki's intermediate processing mode did not suggest printing a plurality of relatively small images. In response, the examiner cites that in the intermediate processing mode, a plurality of printing passes in the main scan is operated to print associated dots for each pass. As a result, a plurality of small images, each is formed by dots of a pass, is also printed in the direction of the sub-scanning.

Conclusion

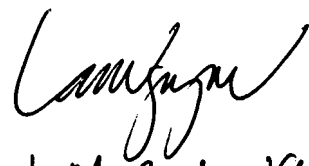
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


LAM SON NGUYEN